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Abstract

U.K. company insiders, such as directors, were legally allowed to trade in the shares of their own companies up until the Companies Act of 1980. We investigate the trading behaviour of directors over the period 1893 to 1907 in the U.K. Although insider trading was profitable, we find relatively few instances of directors who exploited their informational advantage.

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Turn of the 20th century Britain was a period of practically unfettered capitalism for company insiders. The threat of a hostile takeover was not present until after the Second World War (see Hannah (1974)) and directors' elections were staggered, with only 1/3 up for election in each year and directors could not be dismissed by an ordinary resolution (i.e. $50\% + 1$ votes were insufficient to remove a director) at the annual general meetings (AGM) pre-1948 (see Cheffins (2008) p. 129 and also Campbell and Turner (2011)). In addition, directors were legally entitled to enter into contracts with their own firms, could side-step stock exchange rules on issuing prospectuses, and could omit to publicly file any financial statements pre-1908 (and anything meaningful after 1908). On top of this, directors could deal in the stock of their own firms, with insider trading rules only coming into force in the Companies Act of 1980, which prohibited persons to trade in securities in which they had 'unpublished price sensitive information.'

Within such a corporate setting directors had great leeway to enrich themselves at the expense of shareholders, which is the standard agency problem. Although there were bound to have been virtually limitless ways in which a director could take advantage of such a situation two simple methods stand out. Firstly, a director could contract to (personally) supply the company with goods at an inflated price. Secondly, as directors possessed inside (private) information on the state of the company's affairs, they could buy(sell) shares before the public release of good(bad) information. Most companies' Articles of Association required directors to hold a minimum number of shares in the firm, although this was not a legal requirement (see Campbell and Turner(2011)). We find that the vast majority of directors held shares in their own firms, frequently many of them. The passage of legislation forcing directors to reveal (but not precluding their vote on) their personal dealings with the company only arrived with the Companies Act of 1929.[1] The eventual passage of legislation forbidding insider trading in 1980, and the first prosecution in 1981 (see Bhattacharya and Daouk (2002)), indicates that some directors were also at risk of using their private information for personal gain.

The lack of transparency, and absence of many binding rules, was more than a theoretical

[1] Although the London Stock Exchange are on record as forcing listed companies to have stricter rules in their Articles of Association from 1902 onwards (see Cheffins(2008) p. 76)

concern. Cheffins (2008) p. 124 reports Van Oss' claim in 1899 that: "shareholders seldom assert their will. They are led and easily led...the rule that shareholders do as they are bidden by their servants (the directors) has very few exceptions." Henry Lowenfeld asserted that: "directors who are prepared whole-heartedly to devote themselves to their shareholders' interests are the exception."[2] General apathy (which can perhaps be more charitably termed "passive investment") seems to have been the main reason for the strong position of incumbent directors. Kennedy (1987) p. 126 concludes that as a result: "the company's directors (are) in (a) virtually unchallengeable and unchecked possession of the company's assets'." Hannah (2007) says that Edwin Phillips (writing in 1877): "bemoaned the inability of British shareholders to control 'self-elective despots', that is, railway company managers."

Modern studies (e.g., Cohen, Malloy, and Pomorski (2012), Friederich, Gregory, Matatko, and Tonks (2002), and Ravina and Sapienza (2009)) show that some company insiders do, in fact, take advantage of private information for themselves, despite legal strictures against such behaviour. Cohen et al find that directors who trade in a 'routine' fashion (e.g., in the same month every year) convey no information by their trades, whereas 'opportunistic' trading conveys much information. Due to the absence of insider trading rules in the Victorian and Edwardian eras, there is no trading by directors in the same month of every year, and all of our directors' trades would be considered 'opportunistic' by Cohen et al's definition. Friederich et al find that U.K. company insiders have the ability to forecast short-run returns (they buy before a price run-up and sell before a price drop). However, bid-ask spreads mean that outsiders who try to mimic directors' trades can not profit by doing so. Ravina and Sapienza (2009) show that company executives and independent directors earn abnormal returns by dealing in their own firm's stock. Most of these abnormal returns come from the trades of firms with poor corporate governance. With an absence of legal, or stock exchange, rules in Victorian Britain to constrain insider trading, one may expect very high abnormal returns due to insider trading in our sample.

In a setting with no regulations forbidding insider trading, one may expect a prevalence of unethical behaviour. Cheffins (2008) p. 173 says that: "assuming the vendors retained shares

[2] Quoted by Cheffins on p. 125

... it was reasonable for shareholders to rely on the strong financial and personal interest the directors would have in the success of the company." If the directors were seen to have sold out their holdings, shareholders may have inferred that trouble was ahead. However, individuals had to physically consult the shareholder register to obtain such information and Cheffins (2008) p. 172 states that: "such inspections were unlikely to be feasible for anyone living any distance from a company's registered office." We find that although insider trading benefited the insiders, in the sense that some directors sold their own shares before periods of poor performance, these means to personally enrich themselves were fairly infrequently used. For example, during the 60 days prior to a report of a drop in earnings only 20% of all directors' sales took place. Having 20% of directors' trades clustered in this narrowly defined time frame is much higher than would be expected by chance. However, the clear majority of directors' trades took place outside these periods in which they had major incentives to sell before the drop in profitability was reported. It is likely that social norms of behaviour constrained directors from maximizing the financial returns from their positions.

In Section I we describe the role of directors in the U.K. and in Section II we present our data. Section III shows our results and we conclude in Section IV.

I The role of Directors

British firms were allowed to incorporate freely after the passage of the Joint Stock Companies Act 1844, which was followed with the introduction of limited liability in 1855. The Companies Act of 1862 had very little to say about the role of directors; the names of directors had to be available for inspection at a firm's office and sent to the Registrar of Joint Stock Companies (s. 44). Directors were only liable if they had stolen money from the company or: "been guilty of any Misfeasance or Breach of Trust" (s. 164). Directors had even been exonerated when they were found to have lied in a prospectus (see Derry v Peek(1889)) and bankrupts were allowed to serve as directors. The lack of oversight of directors remained an issue for decades, with the Company Law Amendment Committee 1925-26 complaining that it was common for Articles of Association to: "exempt directors in every case except

that of actual dishonesty." The same committee also complained about the non-disclosure of directors' remuneration and loans from the company to directors.

Company Law changed little from 1862 until 1900. An 1894 Board of Trade report that recommended that directors be required to exercise "reasonable care and prudence" was ignored by Parliament (see Cheffins (2008) p. 195). There was no requirement that a firm's financial statements were audited before 1900 and firms were able to conceal contracts between a director and the company up until 1929 (see Cheffins (2008) p. 76).

The London Stock Exchange issued their own directives, but of course these only covered firms who chose to officially list in London. A firm could be unlisted but trade under 'special settlement' (see Cheffins (2008) p. 196) if further regulation was undesired by the directors. Officially listed companies were required to limit directors' borrowing power by 1895. In 1902 the stock exchange forced listed firms to require their directors to own a minimum number of shares, circulate a balance sheet to shareholders, and not vote on any contract of the company in which he had a personal interest. The Company Law Amendment Act, 1907 extended the requirement to publicly file a balance sheet to all firms (see Cheffins (2008) p. 194).

The power of incumbent directors was enhanced by the judicious use of proxy voting and special voting rights. Proxy voting was only allowed if a company's Articles of Association expressly allowed it. If permitted, directors often took advantage by mailing proxy forms to all shareholders before the AGM and naming themselves (or associates) as the proxies.[3] Although voting rights were freely chosen by a firm in its articles of association, Hannah (2007) demonstrates that several firms in railways, gas, and shipping followed the suggestions of the Companies Act, 1862 (Schedule A) in using "capped" voting rights. This act suggested one vote per share up to 10 shares held, then one vote per five shares from 10 to 100 shares, and then 1 vote per 10 shares held, for amounts beyond 100, although many types of "capped" voting systems emerged. Hannah (2007) p. 409 and Cheffins (2008) p. 32 both suggest that "capped" voting protected incumbent directors by preventing an outsider who buys up a large fraction of a firm's equity from acquiring a large fraction of the voting power of the

[3]See Cheffins(2008) p. 130

firm. On the other hand, Campbell and Turner (2011) find that only 30% of companies incorporated after the Companies Act of 1862 used "capped" voting rules.

In short, directors enjoyed exceedingly strong job security, almost completely free from challenges to their authority. Insider trading was legal, and we have found no documentary evidence that it was even considered unethical.

II Data

The primary data for this paper come from *Form E, Summary of Capital and Shares*. These shareholder lists were obtained from The National Archives. The lists report the name, address, and occupation of the shareholder, the number of shares held at the end of the year, and details of any shares sold (but not bought) during the year. Firms were legally obliged to publish such lists by the 14th day after the company's AGM (Companies Act of 1862, s. 25). In addition, a firm was required to make an inspection of such lists available to shareholders free of charge, and to the general public for the payment of a shilling (Companies Act of 1862, s. 31). Failure to do so meant that the company was liable for a fine of up to £5 per day (Companies Act of 1862, s. 26). A company was allowed to close the register for inspection for up to 30 days per year, but the rest of the year the register had to be available for inspection for at least 2 hours per day.

All firms were required to annually file shareholder lists with the Registrar of Companies (now Companies House). Lists of defunct companies are now located in The National Archives. For space reasons in 1950 The National Archives trimmed their collections by throwing away records for some firms, and many years of records for the firms that it has retained.[4]

We obtain balance sheets and, where available, profit and loss statements for the firms in our sample from the Guildhall Library in London. Accounting data for electrical, telegraph, and telephone firms comes from *Garcke's Manual of Electricity Undertakings*. We use weekly data on security prices from the *Stock Exchange Daily Official List* (SEDOL), also available

[4] www.nationalarchives.gov.uk/catalogue/displaycataloguedetails.asp?CATID=1502CATLN=3FullDetails=True

at the Guildhall Library, between 1893 and 1907. The SEDOL contains bid and ask quotes, transaction prices (if any), issued capital, and the ex-dividend day for all securities officially listed on the London Stock Exchange. We calculate the price of a security as the midpoint of the bid and ask quotes.

We construct a value-weighted market index for London that contains 163 securities. The market index is composed of seven banks, 33 railways, 7 breweries, 63 commercial and industrial firms, 19 coal and iron firms, 12 telegraph firms, 20 gas and electric firms, and two mines. By value the banks comprise around 7% of the index, railways 58%, breweries 7%, commercial and industrial firms 8%, coal and iron firms 4%, telegraph firms 3%, gas and electric firms 5%, and mines 4%. The average value of the equities included in our market index (where the average is calculated from 1895 through 1905 is £548 million. By value this is a little over 60% of the London market, so we are confident our market index is representative.[5]

Our sample consists of 158 firms for which we can locate shareholder lists between 1890 and 1909. Of these 158 firms, 40 were listed on the London Stock Exchange whereas 118 were unlisted but traded informally on a 'supplementary list' (see Franks, Mayer, and Rossi (2009)). We have 94 firm-years of listed firms (since we often observe lists for the same firm in different years) and 265 firm-years of unlisted firms.

Descriptive statistics for the companies and directors in our data set are provided in Table I. Firms which were officially listed in London (panel A) earned mean profits of 47.5 thousand pounds per year, with mean return on assets (ROA) of 6.2% and a mean return on equity (ROE) of 10.5%. Profits were growing, on average, by 5.8% per year, although there was a lot of variation around the mean. ROA and ROE were falling, on average, by 1.5 and 1.1 percentage points per year, again with much variation around the mean. Directors, in total, held roughly 14% of the equity of the firm (aggregating both ordinary and preference shares) and the average firm had about four and a half directors. The mean firm had assets of slightly over one million pounds, was 11 years old (defined as years since last incorporation). In an average year directors sold 2.1% of the firm's equity, and a firm's directors made 2.65

[5] The value of the entire London equity market is given as £887 (see Dimson, Marsh, and Staunton (2002)).

individual sales of shares (both ordinary and preference). Listed firms held a reasonable amount of highly liquid assets, with cash comprising 12%.

Unlisted firms were much smaller (mean profits of 10.5 thousand pounds, mean assets of 218 thousands pounds) and slightly less profitable, with average ROA of 5.3% and ROE of 8.5%. Unlisted firms were more closely held by insiders, with directors holding 31.9% of the equity of these firms, and a bit younger, with an average age of 9 and a half years. The mean size of the board of directors was almost identical, at 4.6, to the listed firms. There was less trading by insiders, with directors selling 1.6% of the equity on average, and making one trade per year. Unlisted firms, perhaps since they were younger with more investment opportunities, held less cash, just 5.3% of assets.

In panels C and D our unit of observation is a director-year. We find that a little less than 13% of listed firms (and a little more than 14% of unlisted firms) had directors who shared the same surname as a word in the company's name (e.g., Hon. George H. Allsopp was a director of Samuel Allsopp and Sons). The average listed(unlisted) firm director held 2.6%(7.0%) of the firm's equity. The average sales (as a percentage of shares held by a director at the start of the year) were 13.6% for listed firms and 1.0% for unlisted firms. However, if we calculate the shares sold by a director, as a percentage of the total number of issued shares of the firm, then these figures are very close, 0.3% for listed firms vs. 0.2% for unlisted firms.

III Results

To assess if directors were using insider information we check if there was a relationship between a director's sales (since purchase dates were not usually recorded) and the financial performance of the firm. If a director was exploiting inside information he would be tempted to sell some of his shares before the public release of 'bad news', such as a decrease in profits or the passing of the dividend.

Firms which were officially listed on the London Stock Exchange were usually larger and more newsworthy than unlisted firms. As such, for these listed firms we collect the

announcement dates of dividends from *The Times of London*. Firms usually paid dividends twice per year, with the announcement of the final dividend coinciding with the release of the firm's profits for the year. These dividend/earnings announcements are fairly unambiguous occasions of the release of good/bad information for the firm. We investigate the influences on directors to sell their shares, and we focus on the 60 day period prior to the release of the annual profit/dividend figures. The choice of 60 days is made to line up with contemporary U.K. legislation, which prevents trades by directors in the: "2 months preceding a preliminary, final, or interim earnings announcement" (see Fidrmuc, Goergen, and Renneboog (2006). Therefore, we regress directors' sales in the 60 days prior to the announcement in year t on the percentage change in profits/return on equity(ROE) from year *t-1* to year t after allowing for several controls (see Table II).

We find that firms whose profitability was (subsequently) reported to have fallen tended to have more sales of shares by directors in the 60 days before the announcement was made public. This result holds across a broad range of specifications, and does not depend on whether or not we define profitability as profits in pounds or as ROE (or as ROA, not reported). Adding firm fixed effects reduces the measured effect of a decrease in profits (but not ROE), possibly because firms 'smoothed' profits via the use of 'secret reserves' (see Arnold (1995) and Capie and Billings (2001)). Smoothed profits means that there is little variation in a firm's profits through time, which makes identification of a within-firm effect imprecise. Overall, we find *prima facie* evidence of insider trading, although it could perhaps be argued that directors were just knowledgable individuals who could well read the business cycle, and therefore sold shares (perhaps in many firms) before a business downturn. The size of these effects is large. For example, if we consider the first column of results, a one standard deviation decrease in profit growth is associated with a roughly 70% increase in a director's sales. Once we control for firm fixed-effects the magnitude drops to around 50%. Although these effects are large, they need to be placed in context. Directors of listed firms only sold 2.1% of the firm's equity in a given year (see Table I, panel A).

If a director's surname was found in the firm's title (which should indicate if the firm was originally a private firm taken public by the founding family) then that director was found

to sell less before a profit downgrade, and in some specifications the relation between a drop in profits and an increase in insider sales is completely overturned. Founding families tended to be long-term investors and therefore less likely to sell out due to a (temporary) drop in profitability. Directors were more likely to sell their shares if it was relatively easy to do so, that is if the market for the firm's shares was deep and liquid. The positive coefficient on size indicates just this, larger firms tended to have a more liquid market on the stock exchange, and directors of these firms were more likely to sell their shares just before a drop in profitability was announced. Firms which were older may also have had a more liquid market, and we find tentative evidence that this encouraged insider trading. Firms which held little cash relative to assets tended to see their shares sold before a poor profit announcement. Presumably these were firms fairly close to getting into financial trouble, and even one poor year's trading may have been enough to encourage the directors to sell out. Of the other controls, there is no clear relation between the proportion of a firm's shares owned by a director and his proclivity to sell before an earnings announcement, and there is only weak evidence that a director with the same surname was less likely (overall) to sell his shares in the firm.

Officially listed firms were quite different to unlisted firms, they tended to be substantially larger, have a more dispersed shareholding, and of course were subject to stock exchange regulations that were not present for unlisted firms. Therefore, we repeat the exercise described above for unlisted firms. As profitability is only reported at annual frequency, and since the exact release of this information is typically unknown for unlisted firms due to the lower amount of media coverage of them, we can only work with annual data for the unlisted firms. A firm's full-year profits were generally reported to shareholders at (or just before) the AGM, and the list of shareholders (with details of shares sold during the year) was legally required to be filed no later than 14 days after the AGM, therefore the vast majority of (directors') sales reported in year t will have occurred *before* the release of full year profit figures for year *t*.

Table III shows that no matter if we define profitability as the percentage change in profits or the change in ROE, a fall in profitability from year *t-1* to year *t* is related to an

increase in the sales of directors in year t. The magnitudes of these effects are often lower for the unlisted firms, probably because there was less of a liquid market for their equity, and the ease of selling shares was more difficult. A firm with a ready market on the London Stock Exchange provided more opportunities for a director to unload (soon to be worth less) shares than a provincial or a 'special settlement' listing or a firm that was traded completely off-exchange. The economic effect is again quite large, a one standard deviation decrease in profit growth is associated with a roughly 40% increase in a director's sales.

The positive coefficient on the proportion of a company's shares owned by a particular director may indicate a preference for diversification and/or a general unwinding of the link between firm insiders and ownership in this period (as suggested by Franks, Meyer and Rossi (2009)). Alternatively, firms with more director ownership may have been more susceptible to insider trading. A director had (at least) two methods to personally enrich himself through his position, private contracting with the firm and insider trading. In a firm with a high level of director ownership private contracting would be less attractive, since the director would be stealing cash that would have otherwise gone to himself (and other directors) as dividends. In such a firm insider trading would be more beneficial, since the director would be enriching himself at the expense of outside shareholders.

Larger firms tended to have more sales performed by directors, again probably due to a more liquid market. The negative coefficient on firm age may denote that directors (often family members) tended to sell off their holdings early. Once we control for fixed effects the coefficient on size tends to become insignificant, probably because for a particular firm, firm age and firm size are strongly correlated, making identification difficult. Somewhat surprisingly, we do not find a clear relation between unlisted firms' cash to assets ratio and insider sales, nor between same surname directors and their sales.

Altogether, the results for both listed and unlisted directors' sales show quite clearly that directors were sensitive to the performance of their firms. If the firm was doing poorly a director was more likely to sell off some of his shares, often before the poor performance became public knowledge. The sales of directors may only indicate part of the insider trading problem, since directors may have acted through proxies such as wives, relatives or friends.

In that case insider trading may show up in asset prices, but not directly in the sales of shares by directors themselves.

Since 'bad news' can encompass many eventualities, not just the release of dividend and profit figures, we now reverse the procedure and ask if a director's trading can indicate bad times ahead. In effect we presume that directors' sales do represent insider trading, and verify if that is consistent with the data. We check if the firm experienced negative abnormal returns on the stock exchange after a director's sales of shares. Again, we can only test this for firms which were officially listed.

In Table IV we show the ordinary share price impact associated with a director's sales of shares, ordinary and preference classes considered separately. We calculate abnormal returns as follows:

$$r_j = R_j - (\widehat{a}_j + \widehat{b}_j R_m) \tag{1}$$

where R_j is the actual return of security j from 0 weeks to 2 weeks after the dividend announcement (and also from 3 to 10 weeks after) and R_m is the actual return on the market over the same interval. We estimate a_j and b_j with the market model using weekly data from 34 weeks before to 1 week before the dividend announcement.

In the fourteen days following the sale of a director's shares there is no statistical evidence of an abnormal market reaction, either positive or negative. As a company was forced to leave its list of shareholders open for the inspection of the public for all but 30 days during the year, news of these sales was public knowledge (or perhaps more correctly 'potentially public knowledge' since someone would have needed to physically visit the company's office and inspect the register). We interpret the lack of a market response to indicate that the sale of shares by a director *per se* had no impact on the market's valuation of the company. However, in the three to ten weeks following the sale of a director's ordinary shares (during which time the 'bad news' presumably became public) the company's share price fell, with a negative abnormal return of 2 to 3% on the ordinary shares. Furthermore, if a director had sold more than 10% of his holdings there was a more negative response on the stock market. This moderate negative impact on share prices is similar to what Meulbroek (1992)

finds for negative earnings announcements. She finds that when directors traded (and were prosecuted for doing so) before earnings downgrades in the U.S. during the 1980s there was a negative abnormal return of roughly 2% (see her Table V). We find no statistically significant impact on the price of ordinary shares following a sale of preference shares by directors. Since preference shares' cash flow rights were usually very secure, their price was usually very stable unless a firm was close to bankruptcy. A moderate amount of bad news is going to have much more impact on the price of ordinary shares, and consequently a director wishing to avoid a negative wealth shock would wish to sell his ordinary shares first. A sale of ordinary shares is much more likely to indicate troubled times ahead than the sale of preference shares and explains the insignificant coefficient for preference shares.

We now turn to an analysis of insider trading that comes from the purchases of directors. All firms list the names of shareholders at the end of the bookkeeping year as well as the sales of shares of current 'members' and 'members' who sold all of their shares during the year in question. The vast majority of firms do not list who purchased these shares.[6] Therefore, the best we can do to study purchasing behaviour is to assess the change in the holdings of directors from one list to another (usually several years later). An additional concern is that the change in the number of shares held by a director at the end of the bookkeeping year may involve many purchases and offsetting sales.

Our method to assess the impact of net purchases follows that of Savor and Lu (2009). For each firm-year in which we observe a 'Form E' we total the number of ordinary shares held by all of the directors. From one year to another we observe if that firm's directors had increased or decreased their holdings of shares, in aggregate. We define the months in between as "buy" or "sell" years for insiders.[7] For each month between January 1892 and December 1909 we construct equally weighted portfolios of all "buy" and "sell" firms and calculate the stock market returns of those portfolios. We then regress the portfolio returns on the overall market index, and standard risk factors.[8] The coefficient of interest is the

[6] A handful of unlisted firms have listed the identities of the purchasers in individual transactions.

[7] For example, in the 1899 shareholder list for Evered and Co. the directors held 4,744 ordinary shares. In 1904 they held in total 4,026 shares. Therefore we define the months from January 1900 until December 1904 as "sell" months.

[8] The risk factors used are the return on the Small less Big Portfolio, the return on the High Book to

intercept, known as alpha, which measures if returns were (abnormally) higher or lower than would be expected by the model (see Table V).

We find weak evidence that firms whose directors were (over a multi-year period, on average) buying shares received a higher return than can be explained by traditional risk factors. All of the estimates of alpha for the buy portfolio are positive, although only one specification (and that for purchases of preference shares) is positive. In addition, the return on portfolios whose directors were (net) sellers of shares was lower than can be explained by risk factors. Although these results are weak, they support the idea that directors were buying more shares of their firm if it was doing well, and selling if it was doing poorly. The necessity of aggregating over multiple directors, multiple trades, and across several years precludes tests with more statistical power.

For our final analysis we investigate abnormal returns *before* the public release of information. If an individual with inside knowledge tended to sell his/her shares before the announcement of bad news (such as a dividend cut or a drop in profits) then prices will be affected. In other words, a negative(positive) abnormal return before bad(good) news is publicly announced is indicative of either an information leak, or trading by insiders (such as directors) before the announcement (see e.g., Jarrell and Poulsen (1989), Meulbroek (1992), and Banjerjee and Eckard (2001)). To test for pre-release price movements we use the market model.

In Table VI we present the abnormal returns of ordinary shares in the weeks leading up to a public dividend announcement. To obtain more observations (and thus greater statistical power) we use data from a previous paper (see Braggion and Moore (2011)) which, while covering the same period in British history, has comparatively little overlap with the firms in this sample. The major difference is that there are many more officially listed firms, and lots of these are railway firms.[9]

We compute the actual return of security j over 4 weeks (from 5 weeks until 1 week before the dividend announcement) and compare with the return on the market over the

Market less the Low Book to Market Portfolio, and Momentum.

[9]Railway firms' shareholder lists appear not to have been retained by The National Archives, which explains why we do not include them in this paper.

same interval. We estimate the coefficients of the market model using weekly data from 34 weeks before to 1 week before the interval under consideration. There is strong evidence of negative abnormal returns in the weeks before a dividend reduction or omission and positive abnormal returns before an increase in the dividend or its commencement. These abnormal returns indicate that either (i) information 'leaked' from the company to the stock market or (ii) some insiders were buying(selling) before a dividend increase(decrease) and this impacted prices. In the absence of loose-lipped accountants or indiscreet company secretaries we think the evidence points towards insider dealing by directors or the people they passed the information on to. The results in Table VI indicate that insider trading was probably present to a greater or lesser extent throughout British corporate life during this period, including 'professionally' run huge companies such as the railways.

IV Conclusion

Company directors in the turn of the 20th century United Kingdom operated in a laissez-faire environment with almost no formal rules to regulate their behaviour and few measures for redress available to shareholders. In such an environment insider trading could, and was, done with impunity. We find evidence that insider trading was profitable for directors.

Directors sold their shares before the release of unfavourable profit releases, and bought before improvements in earnings. We find evidence of suspicious upwards jumps in the share price in the weeks before a dividend increase (and drops in the price before dividend cuts or omissions) which is consistent with insider trading (or at least the spilling of such information by company officials). If a director did sell his shares there was no immediate impact on the share price, however two to ten weeks in the future the share price did drop by 2 to 3%, consistent with a director selling a little before bad news was publicly released by the firm. Finally, over very long horizons (roughly five years) firms whose directors were buying shares are associated with better stock market performances than for those firms whose directors were selling their own holdings.

Despite the lack of regulation, and the apparent profitability of insider dealing, what is

most surprising is the moderate level of it. Directors did trade substantially more in our sample than current U.K. directors. The total sales of directors in an average listed firm in the U.K. were roughly 2.1% of the firm by market capitalization (see Table I, panel A) which is much more than the 0.46% that Fidrmuc, Goergen and Renneboog (2006) find for British firms in the period 1991 to 1998 (see their Table I, panel A). A firm's directors were also more likely to sell shares in our sample (they sold 2.65 times per year on average) than the U.K. firms in Fidrmuc et al's sample, where directors sold on average 0.69 times per year.

The U.K. has contemporary rules on insider trading that are considerably tougher than comparable regimes (e.g., the United States, see Fidrmuc et al (2006)). Hence it is not surprising that there is substantially less trading by directors in the U.K. today than there was a century ago. However, what is striking is the number of insider trading opportunities that historical British directors did *not* exploit. During the 60 days prior to an earnings announcement there were only 18 instances when a director sold shares (corresponding to 7 firms, which means that multiple directors were selling at the same time in these firms). In our sample there are 150 director-announcement observations when a firm announced a decrease in earnings. The fact that in 132(88%) of these occasions directors did *not* sell any of their shares in the 60 days preceding the announcement is evidence of broadly ethical behaviour. Our results mesh with those of Banerjee and Eckard(2001) who find that insiders did not greatly exploit their unique knowledge in the U.S. market for mergers and acquisitions during the 1897-1903 merger wave. Roughly three-quarters of price run-ups associated with a merger occurred after the *public* announcement of the merger.

As previous authors such as Lavington (1921), Michie (1999), and Chambers and Dimson (2009) have stressed, the personal nature of shareholding, and the close physical proximity of directors to shareholders in early 20th century Britain, may have acted to curb the worst excesses of directors. An alternative, that pilfering money from the company via other methods was so easy that insider trading was not worthwhile, can not be ruled out though.

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Table I

Summary Statistics

In Panel A we present descriptive statistics of the firms officially listed on the London Stock Exchange in our sample. In Panel B we present descriptive statistics for firms which were not officially listed in London. Each observation is a firm-year for which we possess data on the trades of directors. In Panels C and D we present data on directors for listed and unlisted firms repectively. Each observation is a director-year (there are no directors which serve in 2 or more firms in our sample). "Shares" includes both ordinary and preference shares.

	Mean	Median	s.d.	N
Panel A : Firm Characteristics, Officially Listed				
Profits (profits in thousands of pounds)	47.462	30.255	53.220	62
Return on Assets, ROA (%)	0.062	0.060	0.036	62
Return on Equity, ROE (%)	0.105	0.091	0.067	62
ΔProfits (%)	0.058	0.043	0.540	49
ΔROA	-0.015	-0.001	0.068	48
ΔROE	-0.011	0.000	0.031	47
Shares held by directors (% of total)	14.100	5.000	36.200	46
Firm Size (assets in thousands of pounds)	1049	431	1495	62
Firm Age (years)	11.070	7.000	9.707	62
Number of Directors	4.565	5	2.460	62
# shares sold by directors / # issued shares	0.021	0	0.071	46
Number of trades	2.650	1	4.528	60
Cash / Assets	0.120	0.087	0.146	62
Panel B : Firm Characteristics, Not Officially Listed				
Profits (profits in thousands of pounds)	10.465	6.202	14141	142
Return on Assets, ROA (%)	0.053	0.049	0.0753	142
Return on Equity, ROE (%)	0.085	0.078	0.116	137
ΔProfits (%)	-0.051	0.000	6.01	104
ΔROA	0.003	0.000	0.0912	102
ΔROE	0.009	0.001	0.141	99
Ordinary and pref. shares held by directors (% of total)	31.900	14.400	38.3	102
Firm Size (assets in thousands of pounds)	218.1	168.6	203.6	148
Firm Age (years)	9.507	7.500	8.224	148
Number of Directors	4.595	5	1.266	148
# shares sold by directors / # issued shares	0.016	0	0.0608	102
Number of trades	1.000	0	2.315	148
Cash / Assets	0.053	0.028	0.0708	144
Panel C : Director Characteristics, Officially Listed				
Director's surname appears in firm's name	0.127	0	0.334	283
# director's shares held / # issued shares	0.026	0.007	0.064	222
# director's shares sold	183	0	971	283
# director's shares sold / # director's shares at start of year	0.045	0	0.177	222
# director's shares sold / # issued shares	0.003	0	0.011	222
Panel D : Director Characteristics, Not Officially Listed				
Director's surname appears in firm's name	0.143	0	0	680
# director's shares held / # issued shares	0.070	0.023	0.143	435
# director's shares sold	87	0	780	680
# director's shares sold / # director's shares at start of year	0.010	0	0	417
# director's shares sold / # issued shares	0.002	0	0.0105	511

Table II

Determinants of a Director's Sales just before an Earnings Announcement, Officially Listed Firms

We regress the natural logarithm of one plus the number of shares sold (#) and the proportion of a director's holdings (prop.) that he sold in the 60 days before an earnings announcement in year t on the percentage change in profits (% ΔProfits) and the percentage change in the return on equity (% ΔROE) from year t-1 to year t. We condition on other firm characteristics (as defined in Table I). Same name is a dummy variable equal to one if at least one director's surname was included in the company's title. Listed is a dummy variable equal to one if the firm was officially listed on the London Stock Exchange. Some regressions use firm fixed effects. All regressions use year fixed effects. *, **, and *** represent coefficients that are statistically significant at the 10%, 5%, and 1% levels, standard errors are clustered at the firm level and they appear in parentheses under the coefficient.

Dep Variable	#	#	#	#	prop.	prop.	prop.	prop.
Firm Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
% ΔProfits	-0.477**	-0.354***			-0.072***	-0.022***		
	(0.179)	(0.031)			(0.025)	(0.003)		
Same name *(%ΔProfits)	0.332	0.166			0.081*	-0.008		
	(0.200)	(0.156)			(0.042)	(0.007)		
ΔROE			-1.449***	-2.552***			0.044	-0.257***
			(0.404)	(0.174)			(0.097)	(0.011)
Same name *(Δ ROE)			3.213***	2.873***			0.185**	0.126***
			(0.333)	(0.314)			(0.072)	(0.011)
Director's prop.	0.513	0.322	0.334	0.366	-0.006	-0.013	-0.042	-0.008
	(0.414)	(0.412)	(0.340)	(0.433)	(0.037)	(0.020)	(0.056)	(0.019)
ln (Size)	0.380***	-0.350**	0.363**	0.103	0.038***	0.096***	0.040*	0.125***
	(0.126)	(0.158)	(0.166)	(0.068)	(0.013)	(0.017)	(0.021)	(0.012)
ln (1+Age)	0.100	0.281*	0.102	-0.013	0.011	0.017**	0.009	-0.008
	(0.102)	(0.141)	(0.113)	(0.147)	(0.016)	(0.008)	(0.021)	(0.010)
Cash / Assets	-1.749**	-1.516***	-1.555**	2.373***	-0.080	0.073	-0.091	0.696***
	(0.632)	(0.429)	(0.677)	(0.222)	(0.075)	(0.049)	(0.097)	(0.072)
Same name	-0.085	-0.143*	0.027	0.008	-0.025	-0.008	-0.017	-0.001
	(0.091)	(0.077)	(0.091)	(0.048)	(0.015)	(0.006)	(0.016)	(0.004)
Constant	-4.815**	4.836**	-4.934*	-1.188	-0.504**	-1.296***	-0.574*	-1.738***
	(1.765)	(2.001)	(2.466)	(0.710)	(0.184)	(0.249)	(0.317)	(0.191)
R^2	0.100	0.020	0.092	0.028	0.097	0.015	0.068	0.017
N	348	348	333	333	348	348	333	333

Table III

Determinants of a Director's Sales, Unlisted Firms

We regress the natural logarithm of one plus the number of shares sold (#) and the proportion of a director's holdings (prop.) that he sold in year t on the percentage change in profits (% ΔProfits) and the percentage change in the return on equity (% ΔROE) from year t-1 to year t. We condition on other firm characteristics (as defined in Table I). Same name is a dummy variable equal to one if at least one director's surname was included in the company's title. Listed is a dummy variable equal to one if the firm was officially listed on the London Stock Exchange. Some regressions use firm fixed effects. All regressions use year fixed effects. *, **, and *** represent coefficients that are statistically significant at the 10%, 5%, and 1% levels, standard errors are clustered at the firm level and they appear in parentheses under the coefficient.

Dep Variable	#	#	#	#	prop.	prop.	prop.	prop.
Firm Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
% ΔProfits	-0.301***	-0.106			-0.009**	-0.008		
	(0.100)	(0.156)			(0.004)	(0.005)		
Same name *(%ΔProfits)	-0.058	0.395			-0.004	0.009		
	(0.349)	(0.724)			(0.011)	(0.009)		
ΔROE			-1.515	-3.867***			-0.064***	-0.180***
			(0.935)	(0.678)			(0.022)	(0.029)
Same name *(Δ ROE)			0.649	9.119			-0.033	0.203
			(7.191)	(10.142)			(0.152)	(0.179)
Director's prop.	3.072*	2.906	3.381*	3.024	0.000	0.010	0.007	0.011
	(1.635)	(1.955)	(1.743)	(2.001)	(0.025)	(0.028)	(0.025)	(0.029)
ln (Size)	0.259**	-0.101	0.185	-0.489*	0.011**	0.021	0.006	0.004
	(0.118)	(0.373)	(0.116)	(0.260)	(0.005)	(0.019)	(0.004)	(0.013)
ln (1+Age)	-0.162	-1.295**	-0.145	-1.366***	-0.004	0.016	-0.001	0.007
	(0.146)	(0.509)	(0.119)	(0.442)	(0.006)	(0.020)	(0.005)	(0.019)
Cash / Assets	0.154	-5.006	0.136	-4.564	0.012	-0.067	0.027	-0.065
	(1.541)	(5.049)	(1.606)	(5.690)	(0.053)	(0.146)	(0.054)	(0.123)
Same name	0.054	0.383	0.112	0.450	-0.008	0.003	-0.006	0.004
	(0.352)	(0.417)	(0.361)	(0.434)	(0.013)	(0.015)	(0.012)	(0.015)
Constant	-2.148	5.614	-1.356	9.999**	-0.080	-0.261	-0.040	-0.023
	(1.329)	(5.469)	(1.331)	(3.900)	(0.050)	(0.266)	(0.041)	(0.188)
R^2	0.126	0.056	0.125	0.071	0.040	0.019	0.048	0.028
N	619	619	589	589	610	610	580	580

Table IV

Abnormal Returns after a director's sale of shares

We calculate the abnormal return of a firm from 0 to 2 weeks a director sold any/at least 10% of his shares, and repeat the calculation of abnormal returns from 3 weeks to 10 weeks after a sale. The coefficients α and β are estimated from the market model in panel A, and set equal to zero and one in panel B. We split results between sales of ordinary shares, sales of preference shares, and sales of either type. We report standard errors and the number of observations of directors selling shares. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels respectively. Standard errors are clustered at the firm level.

Panel A: α and β estimated from market model

		Any Sales			Director sold more than 10% of his shares		
Weeks		ordinary	preference	ord. or pref.	ordinary	preference	ord. or pref.
0-2	Abnormal Return	-0.001	0.009	0.002	0.000	-0.002	0.003
	Standard Error	(0.002)	(0.007)	(0.002)	(0.003)	(0.004)	(0.004)
	Observations	98	42	140	81	46	35
3-10	Abnormal Return	-0.021*	0.012	-0.011	-0.033**	0.010	-0.015
	Standard Error	(0.010)	(0.018)	(0.010)	(0.013)	(0.019)	(0.013)
	Observations	99	42	141	46	35	81

Panel B: α=0 and β=1.

		All Sales			Director sold more than 10% of his shares		
		ordinary	preference	ord. or pref.	ordinary	preference	ord. or pref.
0-2	Abnormal Return	-0.000	0.004	0.001	-0.002	-0.001	-0.002
	Standard Error	(0.002)	(0.009)	(0.002)	(0.003)	(0.005)	(0.003)
	Observations	102	44	146	50	37	87
3-10	Abnormal Return	-0.014	-0.011	-0.013	-0.023**	-0.015	-0.020*
	Standard Error	(0.008)	(0.017)	(0.008)	(0.011)	(0.018)	(0.011)
	Observations	103	46	149	50	39	89

Table V

Long-run returns to Directors' Sales

We form portfolios of companies for which directors were net buyers, the "buy" portfolio, and sellers of their shares, the "sell" portfolio. We calculate the monthly returns of these portolios, equally weighted. We regress portfolio returns on the market index, the return on the (small size - large size) portfolio, the return on the (high book to market - low book to market) portfolio and momentum. We report standard errors underneath the coefficients. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels respectively.

Directors Trades	Buy Portfolio				Sell Portfolio			
Share Type	Ordinary	Ordinary	Preference	Preference	Ordinary	Ordinary	Preference	Preference
Weighted Least Squares	No	Yes	No	Yes	No	Yes	No	Yes
Alpha	0.000	0.000	0.001*	0.001	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Market Returns	0.264***	0.271***	0.135**	0.138**	0.277***	0.270***	0.047	0.072
	(0.082)	(0.081)	(0.053)	(0.066)	(0.080)	(0.086)	(0.178)	(0.144)
Small minus Large Size	-0.162	-0.170*	-0.057	-0.053	-0.144	-0.131	0.092	0.059
	(0.105)	(0.098)	(0.082)	(0.079)	(0.104)	(0.109)	(0.213)	(0.177)
High minus Low Book to Market	0.162*	0.173**	0.138**	0.138**	0.182*	0.166*	0.205	0.218
	(0.092)	(0.084)	(0.055)	(0.068)	(0.104)	(0.097)	(0.187)	(0.148)
Momentum	-0.094	-0.108**	-0.033	-0.035	0.012	0.019	-0.069	-0.070
	(0.060)	(0.052)	(0.042)	(0.042)	(0.057)	(0.058)	(0.086)	(0.091)
R^2	0.081	0.089	0.041	0.045	0.079	0.079	0.039	0.038
N	168	168	168	168	145	145	132	132

Table VI

Abnormal Returns before a dividend announcement

before an announcement (a 4 week duration). The coefficients α and β are estimated from the market model in panel A, and set equal to zero and one in panel B. We report standard errors and the number of observations. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels respectively. Standard errors are clustered at the firm level.

Panel A: α and β estimated from market model				
	Cuts & Omissions	Increases & Commencements	Cuts > 10% & Omissions	Increases > 10% & Commencements
Abnormal Return	-0.006*	0.005*	-0.006*	0.006**
Standard Error	(0.003)	(0.003)	(0.003)	(0.003)
Observations	305	414	255	348
Panel B: α=0 and β=1.				
Abnormal Return	-0.010***	0.007***	-0.011***	0.009***
Standard Error	(0.002)	(0.002)	(0.003)	(0.002)
Observations	311	425	261	358